US510682:THERMAL RECOMBINER

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Inventor(s):	**HENRIE; JAMES O.**
Applicant(s):	**ROCKWELL INTERNATIONAL CORPORATION** News, Profiles, Stocks and More about this company
Issued/Filed Dates:	**March 30, 1976** / Sept. 30, 1974
Application Number:	**US1974000051068**
IPC Class:	**B01J 1/14;** C01B 5/00;
ECLA Code:	none
Class:	**232/77R;**
Priority Number(s):	March 12, 1973 **US1973000340148**
Other Abstract Info:	CHEMABS 082(10)061143P
U.S. References:	No patents reference this
Foreign References:	No patents reference this one

US3907981:Method for recombining hydrogen and oxygen

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Inventor(s): **Henrie; James O.** , Hidden Hills, CA

Applicant(s): **Rockwell International Corporation**, El Segundo, CA
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Issued/Filed Dates: **Sept. 23, 1975** / March 12, 1973

Application Number: **US1973000340148**

IPC Class: **C01B 5/00;**

Class: **Current: 423/580.1;** 422/168; 436/055;
Original: 423/580; 023/230.A; 023/253.A; 023/281; 023/284;

Field of Search: **423/580 023/230 R,230 A 176/037**

Legal Status: Show legal status actions

Abstract: A method and apparatus for thermally recombining hydrogen and oxygen comprising a heating chamber in which the gases to be combined are initially heated to a temperature above the threshold for thermal combination or recombination, a reaction chamber into which the heated gases are transferred from said heating chamber to complete the reaction and which is formed to mix previously reacted gases with the gases delivered from said heating chamber, and temperature control means responsive to the temperature in said reaction chamber for controlling the power to the said heating chamber.

Attorney, Agent, or Firm: **DeLarvin; C. E.; Humphries; L. L.; Kolin; H.;**

Primary/Assistant Examiners: **Vertiz; Oscar R.**; Langel; Wayne A.

Family: Show known family members

U.S. References: Show the 1 patent that references this one

Patent	Issued	Inventor (s)	Applicant(s)	Title
US1166294*	12 /1915	Winne		

US1594264*	7 /1926	Howard		
US2590436*	3 /1952	Luten, Jr.		
US3755075	8 /1973	Henrie	North American Rockwell Corporation	CONDENSER-TYPE GAS COMBINER
US3791923	2 /1974	Bhan	Universal Oil Products Company	RECUPERATIVE THERMAL RECOMBINING SYSTEM FOR HANDLING LOSS OF REACTOR COOLANT
US3853482	12 /1974	Bhan	Universal Oil Products Company	RECUPERATIVE THERMAL RECOMBINING SYSTEM FOR HANDLING LOSS OF COOLANT
* some details unavailable				

First Claim: Show all 5 claims

What is claimed is:

1. A continuous method of thermally recombining oxygen and hydrogen comprising the steps of

- a. passing a stream of gas containing free oxygen and hydrogen through a first chamber,
- b. initially heating the gas in the first chamber to a temperature above the threshold temperature for thermal recombination to initiate a thermal recombination reaction,
- c. transferring the gas from the first chamber into a second chamber and redirecting the gas in a direction countercurrent to the gases coming into the second chamber,
- d. exhausting some of the redirected gases from the second chamber,
- e. mixing the remainder of redirected gases with the gases being transferred from the first chamber into the second chamber to heat the transferred gases,
- f. providing a temperature sensing means in the second chamber for sensing the temperature therein, and
- g. substantially maintaining a desired temperature in the second chamber such that substantially all of the recombination reaction takes place in the second chamber, said desired temperature being maintained by controlling the temperature in step (b) in response to the temperature sensed in the second chamber.

Background/Summary: Show background/summary

Drawing Descriptions: Show drawing descriptions

Description of Preferred Embodiments: Show description of preferred embodiments

Foreign References: **none**

No patents reference this one

Other Abstract Info: CHEMABS 082(10)061143P

Other References:
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- Ephraim: "Inorganic Chemistry," Sixth Edition - Revised, Interscience Publishers, Inc., New York, N.Y., (1958), pp. 415-416.